

REMARKS

Claims 1-27 are pending in the application and are at issue.

Claim 22 has been amended to correct an obvious typographical error in the preamble of the claim and now recites a "diaper" as opposed to a "method". Applicants therefore have overcome the objection to claim 22.

Claim 1 has been amended to recite that the superabsorbent polymer (SAP) component of the flexible absorbent sheet comprises particles wherein the SAP component is free of interparticle crosslinking. Support for this amendment can be found throughout the specification, which fails to remotely suggest interparticle crosslinking, either explicitly or inherently. The amendment is specifically supported in Examples 1 and 2, at pages 23 and 24 of the specification, each of which is free of interparticle crosslinking. Also see the specification at page 34, lines 3-14, and page 37, lines 17-25, each disclosing the preparation of an absorbent sheet *without* interparticle crosslinking. These examples and disclosure show that the inventors had possession of the presently claimed invention at the time of filing the application.

It is further submitted (a) that this amendment fully conforms to 35 U.S.C. §112, first paragraph, because the specification provides a proper written description and is enabling, and (b) that this amendment does not introduce new matter into the application. To further demonstrate that the present specification discloses particles "free of interparticle crosslinking," the examiner is directed to the specification at page 5, lines 1-10 (e.g., a "mixture" at line 9); page 6, lines 5-11 (e.g., "separate" particles and "each particle"); page 7, lines 5-9; page 14, lines 30-33; and page 22, lines 12-18 (e.g., pressing conditions insufficient to accomplish surface crosslinking, and hence insufficient to accomplish interparticle crosslinking). Also see Examples 1 and 2 and specification at page 34, lines 3-14 and page 37, lines 17-25, wherein individual multicomponent SAPs particles are formed into a sheet wherein *no* surface crosslinking, and therefore *no* interparticle crosslinking, occurred (as discussed more fully hereafter the primary reference cited against the claims discloses a simultaneous interparticle crosslinking and surface crosslinking). The examiner is also

directed to claim 2 reciting *discrete* particles of each of the acidic and basic resins, and to claim 3 wherein multicomponent SAP *particles* are disclosed.

Applicants not only demonstrated that they possessed the presently claimed invention at the time of filing the application, thereby complying with the written description requirement, applicants also have enabled persons skilled in the art to make and use the invention. In particular, applicants provided examples free of interparticle crosslinking, *and* the applicants specifically teach how to make the flexible absorbent sheets in the absence of interparticle crosslinking at Examples 1 and 2 and the specification, page 34, lines 3-14, and page 37, lines 17-25. Therefore, applicants not only provided examples of the presently claimed invention, but also specifically provided instructions to persons skilled in the art as to how to make a presently-claimed flexible absorbent sheet.

The examiner may be concerned that the specification does not specifically state the term "free of interparticle crosslinking," but it is settled law that a claim term does not have to be recited *in haec verba* in the specification. To comply with 35 U.S.C. §112, first paragraph, all that has to be demonstrated is whether applicants' disclosure has conveyed sufficient information to those skilled in the art that the applicants invented the claimed subject matter. Applicants have met this burden throughout the present specification and in particular in Examples 1-2 and page 34, lines 3-14 and page 37, lines 17-25 of the specification. As stated in MPEP §2163, "[I]t is now well accepted that a satisfactory description may be in the claims *or in any other portion* of the originally filed specification" (emphasis added). Support for a claim limitation can be express, implicit, or inherent.

Applicants have provided sufficient information in the disclosure to inform those skilled in the art that applicants invented the claimed absorbent sheet. Only SAP components free of interparticle crosslinking, as claimed, are provided as examples. The specification clearly states that pressing conditions are such to *avoid* crosslinking. The MPEP goes on to state that the claimed invention can be described in words, structures, figures, diagrams, and formulas. Possession of the invention also may be shown by a reduction to practice, including testing of the claimed invention, which applicants have done in Examples 1 and 2 and in the tests set forth at pages 29-44. Also see the sheets prepared at page 34, lines 3-

14, and at page 37, lines 17-25, for example, wherein no interparticle crosslinking is performed.

A contention that the term "free of interparticle crosslinking" must be recited in the disclosure in order for the specification to contain a basis for the term is not sustainable. This reasoning has been found clearly erroneous in *In re Wright*, 9 U.S.P.Q.2d 1649, 1651 (Fed. Cir. 1989), wherein the court stated:

"...in *In re Smith*, 481 F.2d 910, 914, 178 U.S.P.Q. 620, 624 (CCPA 1973. As our predecessor court said in that case:

The specification as originally filed must convey clearly to those skilled in the art the information that the applicant has invented the specific subject matter later claimed. *In re Ruschig*, supra, 54 CCPA at 1559, 379 F.2d at 996, 154 USPQ at 123. When the original specification accomplishes that, regardless of how it accomplishes it, the essential goal of the description is realized.

In deciding the issue, the specification as a whole must be considered.

As also pointed out in *Smith* and as admitted by the board, "the claimed subject matter need not be described in haec verba in the specification in order for the specification to satisfy the description requirement." The fact, therefore, that the exact words here in question, "not permanently fixed", are not in the specification is not important. From the wording of the examiner's rejection it would seem that he did not know that; at least he wanted to be shown an "unequivocal teaching" that the microcapsules are not permanently fixed."...

...All of this convinces us that it is of the essence of the original disclosure that the microcapsules are "not permanently fixed" to their various supports. The examiner was therefore wrong in his underlying premise that the limitation added to the claim by amendment contained "new matter".

The specification does unequivocally teach the absence of permanently fixed microcapsules. The §112 rejection was clearly erroneous and cannot stand. There is clear compliance with the description requirement."

Therefore, considering the present specification as a whole, particularly in light of the information disclosed throughout the specification and in the examples, applicants have adequately informed those skilled in the art that the SAP component is free of

interparticle crosslinking. See MPEP, § 2163, II, A, 2, wherein the entire specification, including specific embodiments should be considered.

Claims 1-16 and 18-27 stand rejected under 35 U.S.C. §103 as being unpatentable over Roe U.S. Patent 5,372,766 ('766) in view of Beihoffer et al. U.S. Patent No. 6,072,101 ('101). Claim 17 stands rejected under 35 U.S.C. §103 as being unpatentable over the '766 patent in view of the '101 patent and further in view of Wehrmeyer et al. U.S. Patent No. 3,908,659 ('659). The examiner contends that, because the '766 patent discloses an absorbent sheet comprising a standard SAP, and because the '101 patent disclosure multicomponent SAPs, it therefore would have been obvious to substitute a multicomponent SAP of the '101 patent for the SAP of the '766 in the preparation of a flexible sheet. In view of the clarifying amendment to claim 1, it is submitted that this rejection is in error and should be withdrawn.

The '766 patent discloses a porous, absorbent polymeric macrostructure comprising "an interparticle crosslinked aggregate" ('766 patent abstract). The interparticle crosslinked aggregate is prepared from "a multiplicity of precursor particles" and "an interparticle crosslinking agent" to "form crosslink bonds between different precursor particles" ('766 patent, column 2, lines 61-67 and column 3, lines 21-23). Also see column 4, line 57 through column 18, line 17, all directed to interparticle crosslinking of a standard SAP, e.g., partially neutralized polyacrylic acid (see column 6, line 38 through column 7, line 6).

In particular, the examiner's attention is directed to column 16, lines 3-10, wherein the '766 patent discloses a preference for *simultaneous* surface crosslinking and interparticle crosslinking. Hence, the conditions needed for surface and interparticle crosslinking are identical. As discussed more fully below, the present claims utilize a particulate SAP component that is not interparticle crosslinked and that avoids surface crosslinking, and hence interparticle crosslinking, during pressing.

In the '766 patent, at columns 2 and 3, the reference clearly teaches that interparticle crosslinking is an *essential* feature of the '766 patent, and in fact, the '766 patent discloses an improved sheet over prior sheets having interparticle crosslinking. Overall, the

'766 patent teaches that the use of individual discrete SAP particles is to be *avoided*, and that the interparticle crosslinking provides improved macrostructures (for example, see '766 patent, column 3, lines 21-29).

In direct contrast to the teachings of the '766 patent, the presently claimed flexible absorbent sheet utilizes an SAP component of particles that are *free* of interparticle crosslinking. The '766 patent clearly teaches away from using an SAP component free of interparticle crosslinking, and discourages persons skilled in the art from using an SAP component free of interparticle crosslinking. In fact, the '766 patent teaches that using an SAP component free of interparticle crosslinking is to be avoided. See '766 patent, column 1, lines 38-58.

The '101 patent fails to overcome the deficiencies of the '766 patent. In supporting the present rejection of the claims, the examiner contends that it would have been obvious to substitute the multicomponent SAP particles of the secondary '101 patent for the conventional SAP of the primary '766 patent, and thereby arrive at the presently claimed invention.

The '101 patent is directed to a single particle containing both an acidic resin and a basic resin. As disclosed in the '101 patent, neither the acidic resin nor the basic resin alone performs as an SAP. However, when combined together in the same particle, the resulting multicomponent particle is an excellent SAP. The '101 patent also has disclosure relating to a mixture of acidic resin particles and basic resin particles.

Therefore, the most that can be achieved by an arguable combination of the '766 patent and the '101 patent is to substitute the multicomponent SAP particles of the '101 patent for the standard SAP particles of the '766 patent, *then crosslink* the SAP particles to form an aggregate by the formation of interparticle crosslinkers. The interparticle crosslinked aggregates then are formed into a flexible sheet.

The present claims recite an SAP component that is *free* of interparticle crosslinking. The combination of the '766 and '101 patents therefore does not render the present claims obvious. The '101 patent is totally silent with respect to interparticle

crosslinking, but rather discloses the formation of particles having microdomains of an acidic resin and microdomains of a basic resin in the same particle. No crosslinking is present between the two types of microdomains. The '101 patent also discloses a mixture of acidic resin particles and basic resin particles, *without* interparticle crosslinking.

More importantly, the '766 patent specifically *requires* interparticle crosslinking to achieve the benefits of the invention. In the absence of interparticle crosslinking, adverse results occur, e.g., "gel blocking" as disclosed in the '766 patent at column 1, lines 38-66. Accordingly, persons skilled in the art would have had no incentive from a combination of the '766 and '101 patents to prepare a flexible absorbent sheet in the *absence* of interparticle crosslinkings with any reasonable expectation of providing a useful flexible absorbent sheet.

It is submitted therefore that the rejection of claims 1-16 and 18-27 under 35 U.S.C. §103 over a combination of the '766 patent and '101 patent is in error and should be withdrawn.

With respect to claim 17, the '659 patent does not overcome the deficiencies of the '766 and '101 patents discussed above. Claim 17 is a preferred embodiment of the present invention. However, applicants do not rely solely upon the features of claim 17 for patentability, but rely upon all the features of both claim 17 *and* independent claim 1 from which it depends. Accordingly, it is submitted that claim 17 is patentable over a combination of the '766, '101, and '659 patents for the same reasons claim 1 is patentable over a combination of the '766 and '101 patents.

It is submitted that the claims are in proper form and scope for entry and allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

Dated: December 5, 2007

Respectfully submitted,

By 

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